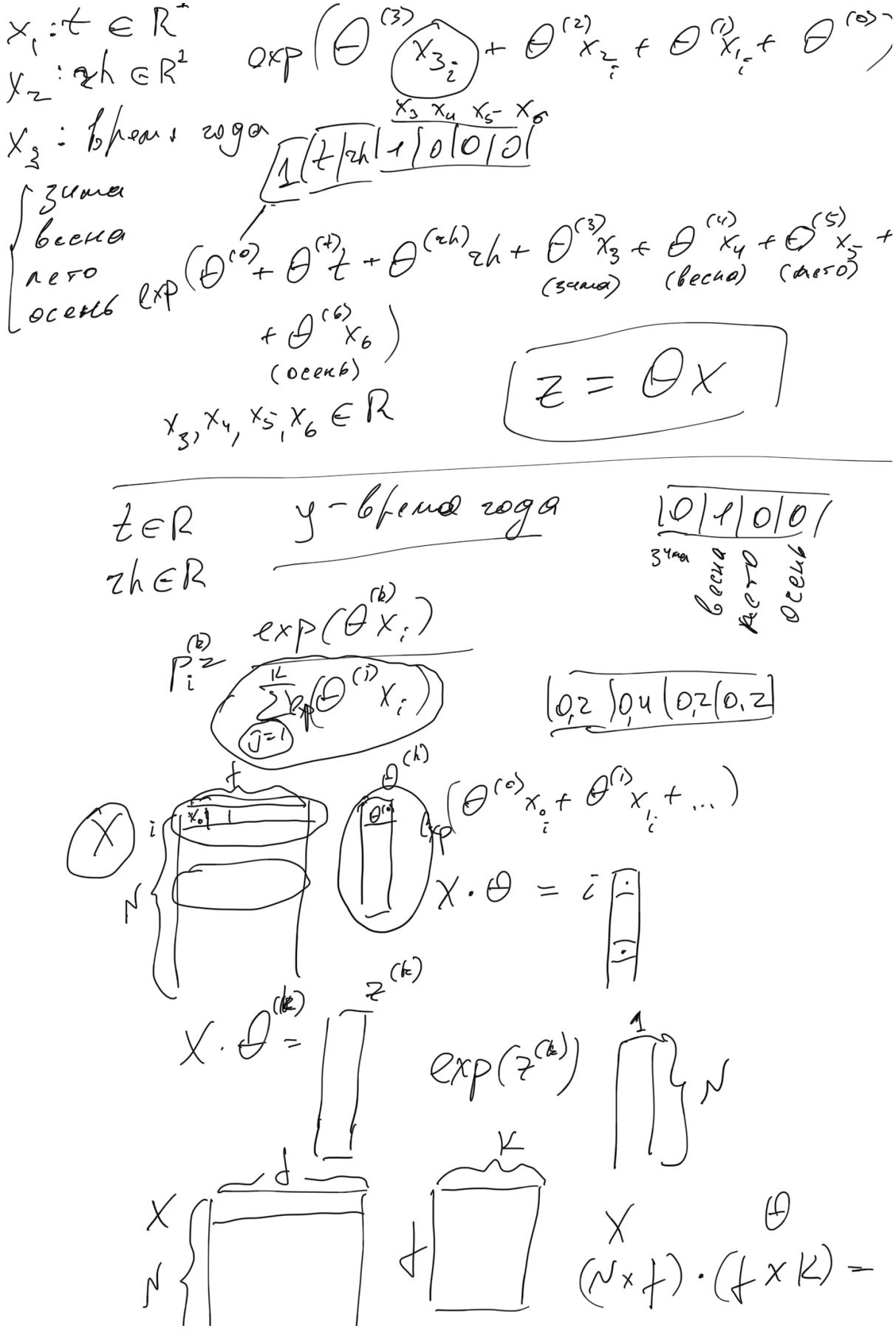
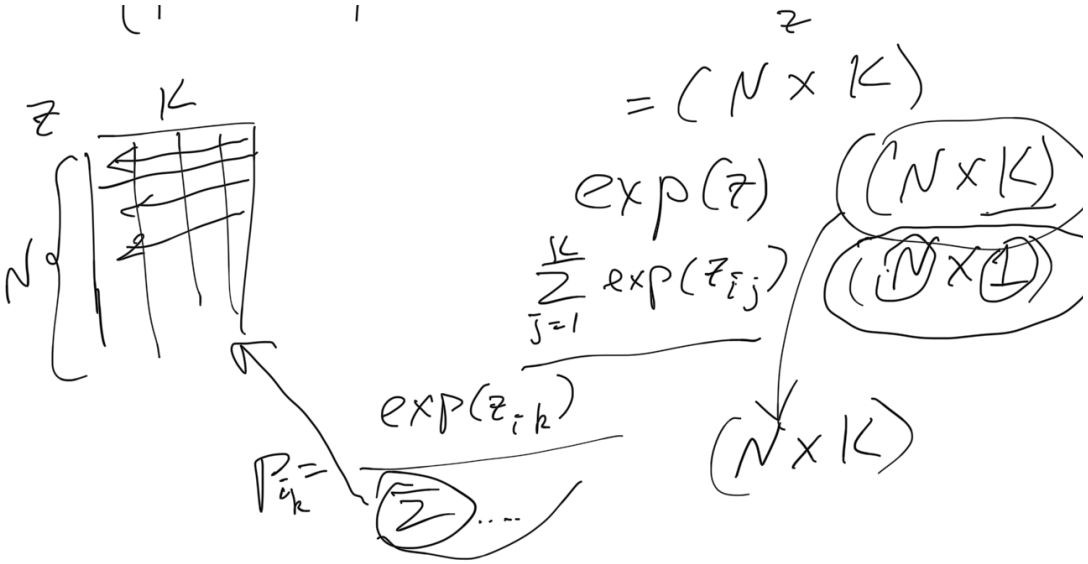
Лекция ML4ES 2020-03-[17,18]





$$p_{ik} = \frac{\exp(z_{ik})}{\sum_{j=1}^{K} \exp(z_{ij})}$$

z_{ik} $(N \times K)$

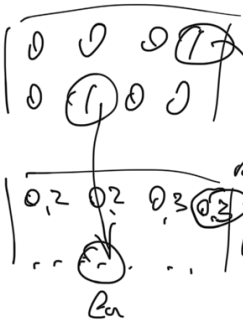
$\exp(z_{ik})$ $(N \times K)$

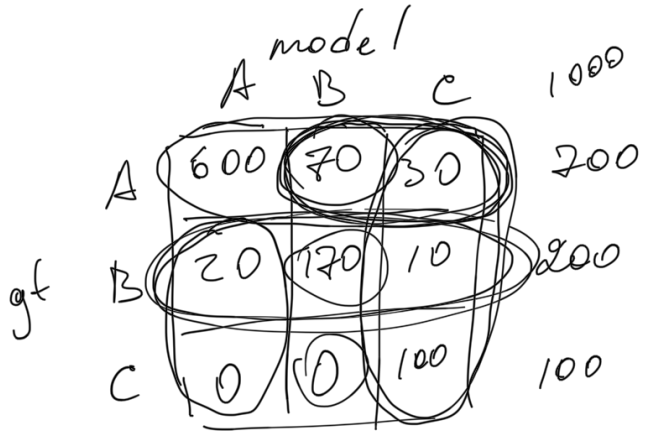
p_{ik} $\in (N \times K)$

$$\ell(\hat{y}, y) = -\sum y \ln \hat{y}$$

y $(N \times K)$

$\hat{y} = p$ $(N \times K)$





$$p_A = \frac{TP_A}{TP_A + FP_A}$$

$TP_A = 600$

$FP_A = 20$

$$p_A = \frac{600}{600 + 20}$$

$= 96.8\%$

$$P_B = \frac{TP_B}{TP_B + FP_B}$$

$TP_B = 170$

$FP_B = 70 + 0$

$P_B = \frac{170}{170 + 70} = 70{,}8\%$

$$R_A = \frac{TP_A}{TP_A + FN_A}$$

$TP_A = 600$

$FN_A = 70 + 30$

$R_A = \frac{600}{600 + 100} = 85{,}7\%$

$R_B = \frac{170}{170 + 20 + 10} = 85\%$

$R_C = \frac{100}{100} = 100\%$

$P_C = \frac{100}{140} = 71{,}4\%$